

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

DCG SYSTEMS, INC.,

Plaintiff,

v.

CHECKPOINT TECHNOLOGIES, LLC,

Defendant.

Case No.: 11-CV-03792-PSG

CLAIM CONSTRUCTION ORDER**(Re: Docket No. 73)**

In this patent infringement suit, Plaintiff DCG Systems, Inc. (“DCG”) alleges that Defendant Checkpoint Technologies, LLC (“Checkpoint”) infringes U.S. Patent Nos. 7, 224, 828 (the “828 Patent”), 7,466,852 (the “852 Patent”), 7,227,702 (the “702 Patent”), 7,492,529 (the “529 Patent”), 7,639,025 (the “025 Patent”), 7,733,100 (the “100 Patent”), and 7,990,167 (the “167 Patent”). These seven patents fall within four families in the general field of integrated circuit diagnostics. The parties seek construction of ten terms and phrases across the patents. After consideration of the claims, specification, prosecution history, and other relevant evidence, and after hearing the arguments of the parties, the court construes the disputed language of the asserted patents as set forth below.¹

¹ Both parties have consented to magistrate judge jurisdiction pursuant to 28 U.S.C. §636(c).

I. BACKGROUND

The asserted patents claim various technologies used to diagnose faults in the transistors of integrated circuits. These technologies include: (1) test signals; (2) imaging; (3) photon emission; (4) laser modulation; (5) modulation mapping; and (6) solid immersions lens (“SILs”).

The ‘828 Patent was filed on May 29, 2007 and assigned to Credence Systems Corporation. DCG now owns the ‘828 Patent.²

The ‘852 Patent was filed on December 16, 2008 and assigned to DCG.

The ‘702 Patent was filed on June 5, 2007 and assigned to Credence Systems Corporation. DCG now owns the ‘702 Patent.³

The ‘529 Patent was filed on February 17, 2009 and assigned to DCG.

The ‘025 Patent was filed on December 29, 2009 and assigned to DCG.

The ‘100 Patent was filed on June 8, 2010 and assigned to DCG.

The ‘167 Patent was filed on August 2, 2011 and assigned to DCG. The ‘167 Patent is a continuation of the ‘100 Patent, and they share a common specification.

II. LEGAL STANDARDS

Seven years after the Federal Circuit’s seminal *Phillips* decision,⁴ the cannons of claim construction are now well-known even if not perfectly understood by parties and courts alike. “To construe a claim term, the trial court must determine the meaning of any disputed words from the perspective of one of ordinary skill in the pertinent art at the time of filing.”⁵ This requires a careful review of the intrinsic record, comprised of the claim terms, written description, and prosecution history of the patent.⁶ While claim terms “are generally given their ordinary and customary meaning,” the claims themselves and the context in which the terms appear “provide substantial

² See Docket No. 1 (Complaint).

³ See *id.*

⁴ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005).

⁵ *Chamberlain Group, Inc. v. Lear Corp.*, 516 F.3d 1331, 1335 (Fed. Cir. 2008).

⁶ See *id.*; *Phillips*, 415 F.3d at 1312 (internal citations omitted).

guidance as to the meaning of particular claim terms.”⁷ Indeed, a patent’s specification “is always highly relevant to the claim construction analysis.”⁸ Claims “must be read in view of the specification, of which they are part.”⁹ Although the patent’s prosecution history “lacks the clarity of the specification and thus is less useful for claim construction purposes,” it “can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.”¹⁰ The court also has the discretion to consider extrinsic evidence, including dictionaries, scientific treatises, and testimony from experts and inventors. Such evidence, however, is “less significant than the intrinsic record in determining the legally operative meaning of claim language.”¹¹

The court may adjust its construction of the claims at issue if later-introduced evidence compels an alternative construction.¹²

III. ANALYSIS

1. “total power”

| CLAIM LANGUAGE | CONSTRUCTION |
|---|--|
| Total power signal | Power: the time rate at which energy is emitted, transferred or received. |
| Total power | Total power: for a single frequency, the power at that frequency, and for a band of frequencies, an integration of power over those frequencies. |
| ‘100 Patent Claims 1, 2, 4, 9, 12, 20, 29 | |
| ‘167 Patent Claims 4, 19 | |

⁷ *Id.*

⁸ *Phillips*, 415 F.3d at 1312-15.

⁹ *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). *See also Ultimax Cement Mfg. Corp v. CTS Cement Mfg. Corp.*, 587 F. 3d 1339, 1347 (Fed. Cir. 2009).

¹⁰ *Phillips*, 415 F.3d at 1317 (internal quotations omitted).

¹¹ *Id.* (internal quotations omitted).

¹² *See Pressure Prods. Medical Supplies, Inc. v. Greatbatch Ltd.*, 599 F.3d 1308, 1316 (Fed. Cir. 2010) (citing *Pfizer, Inc. v. Teva Pharm., USA, Inc.*, 429 F.3d 1364, 1377 (Fed. Cir. 2005)).

| | |
|--|--|
| | Total power signal: a signal representing total power. |
|--|--|

The parties' debate surrounding this construction is unusual. It is unusual because here the parties avoid the more typical debate they later have over whether the ordinary and customary meaning of a term trumps a narrower meaning taught by the specification either in the form of an express definition or claim scope disavowal.¹³ Instead, they agree that "total power" and its kin among claim terms do not have any single ordinary and customary meaning, but disagree whether the specification nevertheless supplies a sufficient meaning appreciable to the ordinarily skilled artisan in all contexts.

DCG says that it does. The specification explains that a user may select either a frequency or a band of frequencies.¹⁴ If the user selects a single frequency, a spectrum analyzer provides the "total power" by producing an output proportional to the power of the signal of the frequency selected. If the user selects a band of frequencies, the spectrum analyzer provides the total power by producing an output proportional to the integration of power over the range of frequencies in the band. Manuals for well-known spectrum analyzers such as the Agilent 89410A and 89440A refer to total power consistent with this teaching.¹⁵ Acknowledging that a spectrum analyzer offers but one option in the specification for measuring total power, a lock-in amplifier being another,¹⁶ DCG argues that one of ordinary skill in the art would appreciate that the total power provided by a lock-in analyzer is sensitive to the electrical signal's phase but is total power nonetheless.

¹³ Cf. *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1302 (Fed. Cir. 2012) (holding that ordinary and customary meaning of claim language governs construction unless the intrinsic evidence supplies another definition disclaims full scope of ordinary meaning; *Honeywell Int'l v. ITT Indus. Inc.*, 452 F.3d 1312, 1317-19 (Fed. Cir. 2009) (narrowing ordinary and customary meaning based on nothing more than lack of support for broader meaning in written description. See also *Retractable Technologies, Inc. v. Becton, Dickinson and Co.*, 659 F.3d 1369, 1370 (Fed. Cir. 2011) (Moore, J., dissenting from en banc denial) (noting conflict within precedents).

¹⁴ See Docket No. 1, Ex. F ('100 Patent) at 5:6 – 6:2.

¹⁵ See Docket No. 75, Ex. 16 at 7, Exh. 17 at 4.

¹⁶ See Docket No. 1, Ex. F ('100 Patent) at 6:47-50.

Checkpoint disagrees. Because the asserted claims provide that "total power" is output from an "analysis system," Checkpoint argues that any explicit definition supplied by the patentee as lexicographer must apply to any analysis system and not just a spectrum analyzer or lock-in amplifier.¹⁷ Even as to those disclosed embodiments of an analysis system for which total power is defined, the definition supplied is insufficient. An explicit definition comes in a formula deemed Equation 1, but it is unintelligible to one of ordinary skill for three reasons: (1) the dimension of its resulting value is nonsense; (2) the value resulting from the interval integrated would not be meaningful; and (3) the equation reflects a conflation of optical and electrical properties. Checkpoint therefore concludes that the term is not only inaccurate but indefinite.

DCG has the better of the argument. As an initial matter, proof of indefiniteness is subject to "an exacting standard" by which Checkpoint must "demonstrate by clear and convincing evidence that one of ordinary skill in the relevant art could not discern the boundaries of the claim based on the claim language, the specification, the prosecution history, and the knowledge in the relevant art."¹⁸ A term need not be clear on its face to avoid indefiniteness, but merely be "amenable to construction."¹⁹ A term is not indefinite even if construing its meaning is a "formidable [task] and the conclusion may be one over which reasonable persons will disagree."²⁰

Turning to the term at issue, the specification of the '100 and '167 Patents clearly teaches that:

- the user may select either a frequency or band of frequencies;

¹⁷ The term "total power" is found in independent claim 1 of the '100 Patent as follows: "an analysis system receiving said output signal over a specified period of time and providing a total power signal corresponding to the total radiation power received over the specified period of time." Docket No. 1, Ex. F ('100 Patent) at 14:37-40.

¹⁸ *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1366 (Fed. Cir. 2011).

¹⁹ *Id.*

²⁰ *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 655 F.3d 1364, 1373 (Fed. Cir. 2011).

- if the user selects a single frequency, then the spectrum analyzer will provide the power of the signal in the selected frequency;
- if the user selects a band of frequencies, the spectrum analyzer outputs a value for the total power in the selected band calculated as the integration of power over the frequencies in the band.²¹

Those of ordinary skill in the art are familiar with spectrum analyzers, and each of these user actions is familiar to those of ordinary skill in the art.²² While the spectrum analyzer manuals DCG cites are extrinsic evidence that “cannot be used to alter a claim construction dictated by a proper analysis of the intrinsic evidence,”²³ extrinsic evidence continues to play an important role in claim construction in confirming the construction provided by an analysis of intrinsic evidence.²⁴ The manuals depict the same user operations in the same terminology used in the ‘100 and ‘167 Patents and note that other practitioners have used the term “total power” as it is used in the ‘100 and ‘167 Patents. Even though total power need not be measured with a spectrum analyzer, and the ‘100 and ‘167 Patents themselves describe an embodiment in which a lock-in amplifier is used to measure total power that is sensitive to phase, those of ordinary skill in the art are undeniably familiar with both spectrum analyzers and lock-in amplifiers and understand that lock-in amplifiers produce a value for total power that is sensitive to phase.²⁵ Under these circumstances, a value for total power that incorporates information about the phase of the reflected light does not cease to be total power.

The main problem with Checkpoint’s position that Equation 1 is the be all and end all is that it ignores several embodiments taught in the specification, including (i) the embodiment in which the user selects a single, specific frequency with a spectrum analyzer (in which case total

²¹ See Docket No. 1, Ex. F (‘100 Patent) at 5:60-6:2.

²² A spectrum analyzer produces an output proportional to the electrical power within a selected frequency band; a lock-in amplifier produces an output that is proportional to the electrical power within a selected frequency band and that also depends on the electrical signal’s phase. See Docket No. 80 (Hobbs Decl.) ¶ 51, Docket No. 83 (Buckman Supp. Decl.) ¶ 33.

²³ *On-Line Tech. v. Bodenseewerk Perkin-Elmer*, 386 F.3d 1133, 1139 (Fed. Cir. 1994).

²⁴ See *Martek Biosciences Corp. v. Texas Instruments Inc.*, 520 F.3d 1358, 1363 (Fed. Cir. 2009).

²⁵ See Docket No. 1, Ex. F (‘100 Patent) at 6:47-7:15.

power is the power at that selected frequency, without integrating across a band of frequencies) and (ii) the embodiment in which a lock-in amplifier is used, in which case Equation 2 provides “total power” instead of Equation 1. The Federal Circuit has discouraged such approaches,²⁶ and it would be especially flawed to do so where one of ordinary skill in the art would understand these other approaches can achieve the same purpose of determining total power and would further understand whether and how to correct Equation 1.²⁷

2. “total amplitude,” “total intensity” and “total modulation”

| CLAIM LANGUAGE | CONSTRUCTION |
|-------------------------------------|--|
| Total amplitude | “amplitude”: the maximum value of the disturbance in a wave or signal |
| Total intensity | “intensity”: the power transmitted in an electromagnetic wave or signal |
| Total modulation | “modulation”: variation of a property (such as, for example, amplitude, frequency, or phase) of an electromagnetic wave or signal |
| ‘167 Patent Claims 1, 9, 14, 16, 19 | “total [value]”: for a single frequency, the [value] at that frequency, and for a band of frequencies, an integration of [the value] over those frequencies. |

²⁶ See, e.g., *MBO Labs., Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007).

²⁷ As to Equation 1, Checkpoint is correct that the equation is facially flawed. But as Checkpoint’s expert Dr. Hobbs recognizes, one of ordinary skill in the art would understand how to alter Equation 1 to remedy the internal error: (1) the correct lower limit should be altered to $w^0 - \Delta w/2$; (2) when the variable of integration is in units of frequency and the desired result is to be in units of power, the integrand should be power spectral density -- that is, power per unit interval of frequency (e.g., watts/hertz). See Docket No. 80 (Hobbs Tr.) at 65:13-69:18, 72:18-73:17. This is not an impermissible redrafting of the claims, see, e.g., *Chef Am. Inc. v. Lamb-Weston Inc.*, 358 F.3d 1371, 1374 (Fed. Cir. 2004), but a correction that is “clearly evident from the specification, drawings, and prosecution history [as to] how the error should appropriately be corrected.” *Superior Fireplace Co. v. Majestic Prods. Co.*, 270 F.3d 1358, 1373 (Fed. Cir. 2001). Cf. *Johnson & Johnson Vision Care, Inc. v. CIBA Vision Corp.*, 648 F. Supp.2d 1294, 1336-37 (M.D. Fla. 2009) (holding that errors in a formula in the specification do not render claim term indefinite if one of ordinary skill in the relevant art recognize the errors and could correct them).

The parties' arguments regarding these terms largely follow their arguments regarding "total power" and the like. There is no serious dispute as to the meaning of "amplitude," "intensity," and "modulation." Instead, the parties again debate whether, in the absence of any ordinary and customary meaning, the patentee may properly rely upon what the specification teaches the ordinarily skilled artisan about how to calculate the total value of these properties.

DCG argues that even though there is a unit error for the term PR in Equation 1, just as those of ordinary skill in the art would understand and correct the units with respect to total power, they would also correct the units with respect to total amplitude, total intensity, and total modulation. The specification uses all four terms in a consistent manner. For example, the "Summary" section uses total amplitude and total intensity in the same manner as total power:

According to one aspect of the invention, a method is provided for testing an integrated circuit (IC), the method comprising: stimulating said IC with a test signal; illuminating said IC with a laser beam; collecting beam reflection from said IC; converting said beam reflection to an electrical probing signal; selecting one or more frequencies of said probing signal; calculating at least one of total amplitude, total intensity, and phase of said probing signal at the selected frequency or band of frequencies.²⁸

In addition, one of ordinary skill reading the specification would know how to integrate or electrically measure various optical properties because instruments can be, and generally are, used to measure physical properties and output corresponding voltages.

Checkpoint responds that because the term "total power" is indefinite, so too are these claim terms. It notes that DCG fails to point to any express definition in the specification of the '167 Patent. DCG's citation to the Summary section does not even refer to the term "total power" contradicts DCG's position and provides no support for the construction that it proposes. The patentee failed to act as his own lexicographer for the term "total power" and fails here too. Absent any ordinary and customary meaning or any definition in the specification, the terms are not amenable to proper construction.

²⁸ See Docket No. 1 ('100 Patent) at 4:5-13.

The court agrees with DCG. The court has previously explained why one ordinarily skilled in the art would understand how to calculate the correct units for the property at issue. In addition, the specification teaches that these optical properties are represented by electrical signals and thus may be measured as integrated as such.²⁹ As Dr. Hobbs acknowledged, “[s]o one . . . generally uses a voltage that you measure in order to tell you the thing you’re interested in knowing.”³⁰

3. “specified period of time” and “selected period of time”

| CLAIM LANGUAGE | CONSTRUCTION |
|------------------------------------|--|
| Specified period of time | A period of time chosen by the operator of the analysis system |
| Selected period of time | |
| <i>‘100 Patent Claims 1, 6, 20</i> | |
| <i>‘167 Patent Claim 14</i> | |

DCG again contends that the above claim terms should be given their ordinary and customary meaning because terms are everyday words to those of skill in the art. In addition, because the meaning to those of ordinary skill in the art would not differ from their commonly understood meanings, they need not be construed. DCG rejects Checkpoint’s proposed construction as an improper attempt to import extraneous limitations into the claims. Checkpoint’s citation to intrinsic evidence does not support a construction that the operator of the system must select or specify the period of time in question.

Checkpoint responds that it is no solution to punt to the ordinary and customary meanings of the disputed terms when the parties disagree what those ordinary and customary meanings are. Checkpoint contends that “specified” and “selected” refer to a determination made by the operator of the accused devices and excludes automatic acts by the equipment. For example, Col. 3:41-48 of and Col. 5:60 to 6:1 of the ‘100 Patent show that the areas to be tested are operator selected. Also,

²⁹ See Docket No. 1, Exh.F (‘100 Patent) at 11:19-39.

³⁰ See Docket No. 80 (Hobbs Tr.) at 22:8-14; see also *id.* at 28:25-29.5 and 33:17-34:2.

nothing in the common experience of those in the art suggests that a spectrum analyzer can itself “specify” or “select” a time. In addition, in the course of prosecuting the patent, the patentee amended Claim 1 to add the limitation so as to distinguish specification or selection that would have been part of the normal operation of the collection of electronics.³¹ Even the extrinsic evidence, here dictionary definitions, support the construction of the terms as limited to the selection of an appropriate time period by an operator.

On this one, the court agrees with Checkpoint. While the court is sympathetic to DCG’s reliance on *Thomer* and its requirement of “clear intent” to disavow or redefine claim scope suggested by the ordinary and customary meaning, the Federal Circuit has not – at least not yet – abandoned the teaching in *Philips* that claim terms be construed “in view of the specification” and consistent with its teachings.³² In contrast to the terms that follow, here the specification and the prosecution teach that a narrower construction than what might be suggested by the ordinary and customary meaning. In particular, the patent specification teaches that:

[t]he apparatus includes a laser source, a motion mechanism providing relative motion between the laser beam and the DUT, signal collection mechanism, which include a photodetector and appropriate electronics for collecting modulated laser light reflected from the DUT, and a display mechanism for displaying a spatial modulation map which consists of the collected modulated laser light over a over a selected time period and a selected area of the IC.³³

Because there can be no reasonable dispute that the area of the IC to be tested is operated selected, it is reasonable to conclude that the same word selected – in the same sentence when it refers to time period means the same thing. Similarly:

The user may select a specific frequency or a specific band of frequencies, and the spectrum analyzer output the total power, TP, received in the specified frequency or band of frequencies The user may select a single frequency [], and the spectrum analyzer would provide the power [] of the signal in the

³¹ See Docket No. 78 at 15.

³² *Phillips*, 415 F.3d at 1312-15 (citing *Markman*, 52 F.3d 979)).

³³ Docket No. 1, Ex. F (‘100 Patent) at Col. 3:41-48.

selected frequency. Alternatively, the user may select a band of frequencies, [], in which case the spectrum analyzer would output a value for the total energy of the selected band.³⁴

Once again, the patentee uses “select” to refer to an election to be made by the operator. The prosecution further confirms that the terms “specified” and “selected” refer to an operator determination, and indeed that DCG narrowed its claims inconsistently with any broader interpretation. In an Office Action of December 26, 2007, the PTO rejected independent claim 1 of the ‘100 Patent as being anticipated by prior art, noting that the prior art patent disclosed, inter alia:

An analysis system receiving said output signal and providing a total power signal, since element 417 is included in an optical detection system that must comprise collection electronics to receive the signal so that it can be processed.³⁵

In response, on April 22, 2008, the patentee amended independent claim 1 by adding the language:

An analysis system receiving said output signal over a specified period of time and providing a total power signal corresponding to the total radiation power received over the specified period of time.³⁶

Checkpoint’s proposed construction is adopted.

4. “integrated system”

| CLAIM LANGUAGE | CONSTRUCTION |
|--------------------------------|---------------------------------|
| Integrated System | Ordinary and customary meaning. |
| <i>‘852 Patent Claims 1, 9</i> | |

DCG contends that the above claim term should be given its ordinary and customary meaning. Because the meaning of the individual words comprising the term to those of ordinary skill in the art would not differ from their commonly understood meaning, they need not be construed. The word “integrate” has a commonplace meaning as does “system” and the specification in the ‘852 Patent uses the term in a manner consistent with these meanings.³⁷

³⁴ See *id.* at Col. 5:60 – 6:1.

³⁵ See *id.* at Col. 5: 2-4, Col. 6:48-65.

³⁶ See Docket No. 79 (Youtsey Decl.) Ex. 12 at 2.

³⁷ See Docket No. 1, Ex. C (‘832 Patent) at 3:57-4:16, 5:55-6:13.

Checkpoint responds that the term “integrated system” should mean a complete, operable system having each of the claim limitations that the patentee intended. An integrated system, says Checkpoint, is necessarily a narrower concept than simply a system. The concept of “integrated” requires the system to be whole, and precludes ad hoc modifications by end users from falling under the claim. DCG offers no other interpretation of the term “integrated,” and the file history is consistent with Checkpoint’s position.³⁸ Checkpoint disputes that the intrinsic evidence DCG cites to contradicts Checkpoint’s proposed construction because what DCG points to is simply irrelevant to the construction of claims 1 or 9.

The court agrees with DCG. Checkpoint’s proposed construction imports extraneous limitations into the term and is at odds with the construction it urged – and the court adopted – for the terms “specified period of time” and “selected period of time.” For both of the latter terms, Checkpoint insisted on a construction that required system operator involvement to specify or select a period of time whereas here, Checkpoint contends a user cannot be involved. Neither of the phrases “complete, turn-key” and “containing, without modification or addition by an end user, all of the capabilities listed by the limitations of the claim” is supported by the evidence as Checkpoint contends. Indeed, intrinsic evidence from the specification³⁹ contradicts that construction:

In one aspect of the invention, an integrated system for testing an integrated circuit chip is provided. The chip under test is coupled to an Automated Test Equipment (ATE) that powers the device and stimulates it with programmed logic vectors and signals to simulate operating (functional & test) conditions of the chip.⁴⁰

The specification further states, “[t]he system operates in conjunction with a commercially available automated testing equipment 105 (ATE).”⁴¹ So does the extrinsic evidence in the form of

³⁸ See Docket No. 78 at 17-18.

³⁹ See, e.g., Docket No. 1, Ex. C (‘852 Patent) at 4:1-6.

⁴⁰ See *id.* at Col. 4:1-6.

⁴¹ See *id.* at Col. 6:57-59.

testimony from Checkpoint's expert Dr. Hobbs.⁴² The claim term shall be given its plain and ordinary meaning.

5. "carrier"

| CLAIM LANGUAGE | CONSTRUCTION |
|---|---|
| A carrier for mounting the SIL | SIL means solid immersion lens. Otherwise ordinary and customary meaning. |
| A carrier for mounting the chip <i>'702 Patent Claim 7</i> | Ordinary and customary meaning. |

DCG contends that the above claim term should be given its ordinary and customary meaning. Once again, DCG urges that the term is commonly understood and should be interpreted according to its ordinary meaning. In addition, because "carrier" does not have a special meaning in the field, the meaning to those of ordinary skill in the art would not differ from its commonly understood meaning and need not be construed.

Checkpoint responds that the word "carrier" appears twice in claim 7 of the '702 Patent and refers to two different structures. In the first instance, the complete claim term is "a carrier for mounting the chip and providing electrical conductivity to the chip."⁴³ In the next instance, the complete claim term is "a carrier for mounting the SIL."⁴⁴ Checkpoint argues that the second instance mentioning "carrier" does not involve a design providing electrical conductivity to that which it is holding. As a result, it is clear from the specification that the terms have different meanings at different portions of their claims. If the term "carrier" is applied in its broadest sense

⁴² See Docket No. 80 (Hobbs Tr.) at 112:12-114:5.

⁴³ See Docket No. 78 at 18.

⁴⁴ See *id.*

then it encompasses carriers that are incapable of “providing electrical conductivity to the chip” and contradicts the further claim language.

The court agrees with DCG. The problem with Checkpoint’s proposed constructions is that they provide different meanings of the disputed term in different portions of the same claims. Terms are presumed to have a single meaning within a set of claims.⁴⁵ Although this is a presumption and not an absolute rule, the evidence cited by Checkpoint does not clearly indicate that “carrier” should have different meanings in the two phrases. If the applicant(s) had intended the “carrier for mounting the chip and providing electrical conductivity to the cap” to mean a “chip carrier,” there would have been no reason to include the “providing electrical connectivity to the chip” language. As Dr. Hobbs himself admitted, chip carriers inherently provide such connectivity.⁴⁶

The claim term shall be given its ordinary and customary meaning.

6. “simulating normal operating conditions” and “simulate operating conditions”

| CLAIM LANGUAGE | CONSTRUCTION |
|--|---|
| “simulating normal operating conditions” and “simulate operating conditions” <i>‘828 Patent, Claim 15</i> <i>‘852 Patent, Claims 1, 17</i> | Ordinary and customary meaning applies. |

DCG contends that the above claim term should be given its ordinary and customary meaning and that both parties’ citations to intrinsic and extrinsic support this position.⁴⁷ The term is not given any kind of special definition in the specification and includes commonly understood

⁴⁵ See *Fin. Control Sys. Pty., Ltd. v. OAM, Inc.*, 265 F.3d 1311, 1318 (Fed. Cir. 2011).

⁴⁶ See Docket No. 80 (Hobbs Tr.) at 101:22-102:9.

⁴⁷ See Docket No. 73 at 21.

words used according to their ordinary meaning. DCG points out that what it means to “simulate” normal operating conditions is context-specific because “simulating normal operating conditions” will typically involve reproducing only a subset of the conditions under which the device normally operates. Often, it is impossible or impractical to simulate all of the normal operating conditions because the structures used to observe or measure the test may interfere with certain operating conditions. The challenge, says DCG, is to determine which conditions are essential for a valid test, and to ensure that those conditions are simulated. The ordinary and customary meaning “simulating normal operating conditions” is sufficient, and indeed necessary, to capture this.

Checkpoint responds that while DCG proposes giving the terms their ordinary and customary meaning, in fact what it intends to do is to greatly expand the scope of the claim. Checkpoint argues that the patentees acted as their own lexicographer:

In one aspect of the invention, an integrated system for testing an integrated circuit chip is provided. The chip is coupled to an Automated Test Equipment (ATE) that powers the device and stimulates it with programmed logic vectors and signals to simulate operating (functional & test) conditions of the chip.⁴⁸

Checkpoint points out that the patentees defined simulating operating conditions to include both the functional and test conditions of the chip, not just test conditions.⁴⁹

The court agrees with DCG. Checkpoint’s focus on the manner in which the device operates is misplaced because the claim language focuses on the conditions in which the device is tested, not on its response.⁵⁰ In the environment of the analysis supported by the claimed invention, the response of a device under test is unpredictable; the test is run to determine how the device will react. All of the asserted claims in which the phrase “simulating normal operating conditions” appears expressly require that the device under test be powered. For example, the methods described in claim 15 of the ‘828 Patent and claim 17 of the ‘852 Patent require the step of “providing said chip with test signals from [an] ATE.” Claim 1 of the ‘852 Patent is described as

⁴⁸ See Docket No. 1, Ex. A (‘828 Patent) at 3:59-4:8.

⁴⁹ See Docket No. 78 at 21.

⁵⁰ See Docket No. 73 at 22.

“[a]n integrated system for testing an integrated circuit chip simulated to simulate operating conditions.” The fact that the claims express that the chip must be powered is strong evidence that this requirement is not inherent in the term “simulating normal operating conditions.” Finally, Checkpoint’s proposed construction is unclear and unsupported by the evidence it cites. The construction does not explain the extent to which the device under test must function “as intended when installed in the end user system for which it was designed.” Checkpoint’s construction would require, for example, that a desktop CPU be installed in a desktop computer motherboard and set up to run a desktop operating system such as Microsoft Windows. Nothing in the specification or in other evidence suggests that one of ordinary skill in the art would consider “simulating normal operating conditions” also to exclude other potential approaches to testing a device. The claim terms shall be given their ordinary and customary meanings.

7. “manipulators”

| CLAIM LANGUAGE | CONSTRUCTION |
|--|---------------------------------|
| “manipulators” <i>‘701 Patent, Claim 27</i> | Ordinary and customary meaning. |

DCG contends that the above claim term should be given its ordinary and customary meaning. The word has no special meaning to persons of skill in the art and can be understood by examining the meaning of the word “manipulate,” which means “to treat or operate with or as if with the hands or by mechanical means, especially in a skillful manner.”⁵¹

Checkpoint responds that the term “manipulators” appears in claim 7 of the ‘702 Patent as follows: “manipulators for controlling the distance between the SIL and the objective lens.” The terms also appears in claim 16 of the ‘529 Patent as follows: “the testing device of claim 15, further comprising manipulators for controlling the distance between the SIL and the objective lens.” The

⁵¹ See Docket No. 73 at 23.

manipulators in the claims therefore are structures suited for a particular purpose – to control the distance between the SIL and the objective lens, as is explained further in the common specification for the two patents:

Stage 860 further includes manipulators 870 for line Z adjustment. Specifically, the manipulators 870 are used to control the distance between the immersion lens and the objective 830 lens for focus adjustment and pressure control. The manipulators 870 may be controlled by a known per se autofocus system.⁵²

Dr. Hobbs further explains that being able to “control” both focus adjustment and pressure control requires being able to change one without necessarily changing the other. For example, with the SIL on the device surface, and the objective lens focused to a particular depth within the chip, if an operator wished to change the SIL pressure against the chip, the operator would have to move the SIL with respect to the chip – to increase pressure he would have to move the SIL into the chip, and reverse to decrease pressure.⁵³ However, if at the same time the operator wished to remain focused to the same depth, then that operator would want the objective lens to remain the same distance from the desired depth.⁵⁴ To achieve both goals – moving the SIL to change pressure, and not moving the objective lens to remain focused to a particular depth – requires an apparatus that can move the SIL away from the objective lens to increase SIL/chip pressure, or toward the objective lens to decrease SIL/chip pressure. Such an apparatus would necessarily be able to move the SIL toward or away from the objective lens regardless of whether or not the SIL was in contact with a chip.

The court agrees with DCG. Checkpoint’s proposed construction seeks to impose extraneous limitations on the disputed term. Claim 7 of the ‘702 Patent and claim 16 of the ‘529 Patent both recite “manipulators for controlling the distance between the SIL and the objective

⁵² See Docket No. 1, Ex. B (‘702 Patent) at 9:54-59, Figure 8.

⁵³ See Docket No. 80 at 33.

⁵⁴ See *id.*


lens.” The fact that both claims express that the manipulators control the distance between a SIL and an objective lens is strong evidence that the requirement is not inherent in the term “simulating normal operating conditions.”⁵⁵ Checkpoint’s proposed construction also would require that the distance between the SIL and the objective lens be set “without the SIL being in contact with the device under test,” which is contradicted by the portion of the specification that teaches that:

Stage 860 further includes manipulators 870 for line Z adjustment. Specifically, the manipulators 870 are used to control the distance between the immersion lens and the objective 830 for focus adjustment and pressure control. The manipulators may be controlled by a known per se autofocus system.⁵⁶

Dr. Hobbs’ testimony to the contrary does not confront this teaching. The ordinary and customary meaning shall apply.

IT IS SO ORDERED.

Dated: 10/17/2012


 PAUL S. GREWAL
 United States Magistrate Judge

⁵⁵ Cf. *Phillips*, 415 F.3d at 1314.

⁵⁶ See Docket No. 1, Ex. B (‘702 Patent) at 9:54-59.